

Abstract: Research on Reliability Enhancement of Wireless Communication Link for OFDMA based 4G Machine-Type-Communication (MTC) Network

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Abstract

In a 3rd Generation Partnership Project (3GPP) Long Term Evolution (LTE) network, Machine-Type-Communication (MTC), which is widely known as Machine-to-Machine (M2M) communication, is considered as the key application area for 4G mobile broadband networks. The MTC services - such as Smart Grid, Smart Metering, Automated Remote Machine Management and Control - request higher reliability than conventional human voice and data services, in which packets generated from a mobile node should be transferred to a base station with strictly higher possibility. In this paper, we propose the reliability enhanced wireless link layer which focus on uplink scheduler to meets reliability requirements of MTC services. And, the proposed method is independent of the location and quality of the wireless link of the mobile terminal. Through the performance evaluation results, we proved that the proposed reliability enhancement method achieves the improvement of reliability performance compared with those of conventional works.

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